

SPECIFICATION AMENDMENTS

Please replace the paragraph starting at page 8, line 21 with the following revised paragraph.

The distributor 24 (also shown in Figures 5 and 6) divides the gas from the preheater 18 into at least two different portions and directs the portions in different directions. Accordingly, the distributor 24 includes an axial hole 28 that extends longitudinally through the distributor 24. Thus, a first portion of gas flows through the axial hole 28 from the preheater discharge opening 20 to the hardware assembly inlet opening 53. The distributor 24 also includes a number of radial holes 30, or passageways, that extend out from the axial hole 28 to the outer diameter 26 of the distributor 24. Thus, a second portion of gas flows out of the distributor 24 through the radial holes 30 to the space between the floor plate 22 and the bottom base plate 46. Other equivalent passageways, such as grooves or the like, formed into the floor plate 22, the bottom base plate 46, the distributor 24, or other hardware member may also be used in place of the radial holes 30. In one exemplary embodiment, the first portion that flows through the inlet opening 53 of the bottom base plate 46 represents about 76% of the gas mixture, and the second portion that flows out through the radial holes 30 represents about 24% of the gas mixture. In this embodiment, the first gas flow portion is restricted by the inlet opening 53, which is about 5 inches in diameter, in the bottom base plate 46. The second gas flow portion is then restricted by the radial holes 30, which consist of eight holes about 1 inch in diameter. Other proportions for the first portion and second portion may also be advantageous, and other sizes and placement of the inlet opening 53, axial hole 28 and radial holes 30 may be used. For example, the range of flow through the inlet opening may be as low as 20% to as much as 80%, while the range of flow into the space between the floor plate 22 and the bottom base plate 46 may be as high as 80% to as low as 20%. Typically, the preferred embodiment uses a proportion of about 80% for the first portion and about 20% for the second portion, but proportions between 70% and 90% for the first portion and 30% to 10% for

the second portion and between 60% to 80% for the first portion and 40% to 20% for the second portion, or vice versa, may be used.

Please replace the paragraph starting at page 10, line 23 with the following revised paragraph.

Caps 56 (also shown in Figures 7 and 8) are installed into the transfer openings 54 of the top support plate 52, or plate, of the top module 36 in order to restrict gas flow through the top of the stacks 4. Each of the caps 56 include an extended portion 58 that extends down into the center openings 5 of the top brake disks 9. Four longitudinal holes 60 are also provided through the caps 56 to allow some gas flow to escape upward from the center openings 5 of the stacks 4. Thermocouple wires 7 may also be routed through the holes 60 in the caps 56 and down through the center openings 5 in the stacks 4. The thermocouple wires 7 are then connected to thermocouples embedded in sample brake disks (not indicated) at various heights in the stacks 4 to measure the representative temperature of the brake disks 2.

Please replace the paragraph starting at page 12, line 18 with the following revised paragraph.

As shown in Figure 9, the flow of gas through the hardware assembly 80 may also be controlled between a first portion and a second portion without using the distributors 24 and caps 56. In this alternative arrangement, the bottom base plate 82 rests directly on top of the furnace floor plate 22. The inlet openings 84 include a lower, larger diameter hole 86. The radial holes 90, or passageways, extend through the base plate 82 from the lower, larger diameter holes 86 to the gaps 74 between the outer base plates 81 and between the outer base plates 81 and the center base plate 83 and to the outer edge of the outer base plates 81. Small holes 94 are also provided through the top support plate 92.

Please replace the paragraph starting at page 12, line 27 with the following revised paragraph.

The gas flow through the alternative hardware assembly 80 is now apparent. Like the hardware assembly 32 previously described, the hot reactant gas enters through the inlet ducts 14 and passes through the preheater 18. The gas then exits the preheater 18 through the discharge openings 20 and passes directly into the lower, larger diameter hole 86, or lower hole, of the inlet opening 84. Next, a first portion of gas passes through the upper, smaller diameter hole 88, or upper hole, in the inlet opening 84. A second portion of gas also passes through the radial holes 90. Accordingly, as previously described with respect to the first hardware assembly 32, the first portion of gas then passes up through the center opening region 5, while the second portion of gas passes up along the outer region 11. As the first portion of gas passes up through the center opening region 5, most of the first portion passes out to the outer region 11 through the open passages 8 between adjacent brake disks 2 and commingles with the second portion. Some of the first portion, however, passes up through the entire center opening region 5 and exits the hardware assembly 80 through the small holes 94 in the top support plate 92, or plate. The remaining commingled gas then exits the hardware assembly 80 through the gaps 74 between the plates 70, 72 and along the outside of the hardware assembly 80.

Please replace the paragraph starting at page 13, line 23 with the following revised paragraph.

If desired, the top unit 38, which is shown in the previous hardware assemblies 32, 80, may be removed in this alternative hardware assembly 100. The top stack 4 of brake disks 2 is then stacked so that the top brake disk 9 is spaced away from the bottom surface 112 of the susceptor lid 110, or plate, with an open passage 116

therebetween. Preferably, the open passage 116 is no more than 1 inch wide although larger widths may also be used. Spacer rings, well known to those in the art, may be used to achieve a desired width for the open passage 116. Exit holes 118 are provided through the susceptor lid 110, or comparable plate, directly above each of the stacks 4. Small holes 120 through the susceptor lid 110 may also be provided away from the exit holes 118. The susceptor lid 110 is supported by and sealed to the susceptor walls 114 (the susceptor walls 114 and susceptor lid 110 are not shown in Figures 1 and 9 for simplicity).